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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,497	08/15/2006	Isao Miyagawa	0033-1091PUS1	9861

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EXAMINER	
JANSSEN, SHANNON L	

ART UNIT	PAPER NUMBER
1639	

NOTIFICATION DATE	DELIVERY MODE
12/23/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/589,497	MIYAGAWA ET AL.	
	Examiner	Art Unit	
	SHANNON JANSSEN	1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 August 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-8* is/are pending in the application.

4a) Of the above claim(s) *4 and 5* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 6-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☒ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 11, 2010 has been entered.

Claim Status

Claims 1 and 4-8 are currently pending. Claims 4-5 have been withdrawn and claims 6-8 were added in the claim amendments received October 22, 2009. Claim 1 was amended and Claims 2-3 were cancelled in the amendments received August 11, 2010. Claims 1 and 6-8 are currently under consideration.

Election/Restrictions

Applicant's elected Group I (claims 1-3) in the reply filed on July 29, 2009 **without** traverse.

Claims 4-5 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Inventions, there being no allowable generic or linking claim.

Priority

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on March 3, 2004. The office is being requested to retrieve the document.

Invention as Claimed

The present invention is drawn to a method comprising simultaneously hybridizing multiple specimens using a microarray, wherein said microarray is formed by arranging, on a glass slide, a plurality of hydrophilic regions, and wherein a hydrophobic region is formed around the plurality of hydrophilic regions on the glass slide, wherein a plurality of probe biopolymers are spotted and immobilized to the plurality of hydrophilic regions and wherein no probe biopolymer is immobilized to the hydrophobic region, wherein said hybridization step further comprises hybridizing a sample biopolymer and the probe biopolymers in a closed vessel containing a solution having the same vapor pressure as a solution containing the sample biopolymer, wherein the solution containing the sample biopolymer is in contact with the hydrophilic regions on the glass slide, and various embodiments.

New Rejections

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Present claim 6 recites wherein a volume of solution in the closed vessel is at least five times the quantity of the solution comprising the sample biopolymer. It is unclear how, e.g., a chamber comprising a solution containing the sample biopolymer throughout, could have five

times the quantity of solution comprising the sample biopolymer. In other words, applicants have not limited the solution containing the sample biopolymer as separate from the solution in the chamber. Therefor it is unclear how the volume of solution in the closed vessel can be at least five times the quantity of the solution comprising the sample biopolymer, if applicants intend for the solution containing the sample biopolymer that is being added to the chamber to be one fifth of the amount in the chamber, or if applicants intend a different meaning.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in Graham **v.** John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schembri (US Patent Application Publication 2001/0046702, filed June 19, 2001, previously cited in the action mailed July 22, 2009) and Sato et al (US Patent Application Publication

2002/0127589, published September 12, 2002, provided by applicants in IDS, previously cited in the action mailed July 22, 2009).

Regarding present **claim 1** Schembri teaches a hybridization chamber for hybridizing at least one array (see [0040]), wherein the array can be a glass microscope slide (see [0041] and that the chamber forms a vapor tight seal (see [0055]). Schembri further teaches a method of hybridizing sample (i.e.: probe) to an array comprising inserting the array into the chamber, adding the sample to be hybridized (i.e.: same vapor pressure because only hybridization buffer is added) and closing the chamber (see [0084-0089]). Schembri also teaches that the use of an evaporation inhibiting liquid may create an uneven distribution and cause evaporation of portions of the array (see [0008]).

Regarding present **claims 7-8**, Schembri et al. teach DNA, RNA, and peptides (see {0022-0028, 0087]).

Schembri does not teach a slide glass comprising hydrophilic and hydrophobic regions.

Regarding present **claim 1** Sato et al. teaches a hybridization microarray comprising a hydrophilic region to which probe biopolymers are fixed and a hydrophobic region to which no probe biopolymer is immobilized formed around the arranged plurality of hydrophilic regions (Abstract, [0011, 0021-0023]).

It would have been obvious to one of ordinary skill in the art to modify Schembri with Sato et al. One would have been motivated to do so because Schembri teaches that the hybridization chamber provides for the even distribution of a sample over an array surface and substantially prevents dehydration of the array surface during the hybridization process (see [0009]). Further, Sato et al. teach the advantage of using an array with hydrophilic and

hydrophobic regions as being advantageous because it is "capable of shaping a spot of probe DNA to be fixed, into the desired shape readily and easily" (see, [0010-0011]). One would have had a reasonable expectation for success because Schembri teaches that the array chamber disclosed in their application can be used with a multitude of different array formats (see [0009]) and that the array can be a glass microscope slide (see [0041]).

Therefore it would have been prima facie obvious to modify Schembri with Sato et al.

Response to Arguments

Applicant's arguments filed August 11, 2010 have been fully considered but they are not persuasive for the following reasons. Applicants' arguments are presented in Italics.

Applicants assert that the Sato microarray is structured to form a spot for a single probe biopolymer in a single hydrophobic region and that the hydrophilic region is therefor of a very small size and is not large enough to hold a solution containing a sample biopolymer and would require a coverslip (Response, p 9).

In response, it is noted that the claims are only limited to the solution being in contact with the hydrophilic regions and do not exclude the use of a coverslip or the solution being in contact with other regions. In addition, since the slide is immersed in the hybridization buffer containing the probe, it is unclear how the hybridization buffer containing the probe would not be in contact with the hydrophilic regions. One of skill in the art would expect that the buffer would be in contact with the hydrophilic regions. Applicants have provided no evidence that this would not be the case, nor have applicants provided any evidence that the hydrophilic regions taught by Sato et al. would not be large enough for the buffer to be in contact with them.

Further, the arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). See MPEP § 2145 I.

Claims 1 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clontech GlassHyb ® Hybridization solution user manual, published January 9, 2001, previously cited in the action mailed July 22, 2009) and Sato et al (US Patent Application Publication 2002/0127589, published September 12, 2002, provided by applicants in IDS, previously cited in the action mailed July 22, 2009).

Regarding present **claims 1 and 6**, Clontech teaches a hybridization method comprising inserting a glass microarray into a hybridization chamber and adding a hybridization solution containing the labeled probe, such as RNA (i.e.: simultaneously hybridizing multiple specimens using a microarray, sample biopolymer in solution, thereby having the same vapor pressure, wherein the solution containing the sample biopolymer is in contact with the hydrophilic regions on the slide) and closing the chamber (p 3), wherein the hybridization volume can be 1.8 mL and the probe volume can be 200 mL (i.e.: at least 5 times the volume of the quantity comprising the sample biopolymer since the hybridization volume can be 1.8 mL and the probe volume can be 200 mL; see p 5).

Clontech does not teach a slide glass comprising hydrophilic and hydrophobic regions.

For present **claims 1 and 7-8**, Sato et al. teaches a hybridization microarray comprising a hydrophilic region to which probe biopolymers are fixed and a hydrophobic region to which no

probe biopolymer is immobilized formed around the arranged plurality of hydrophilic regions, and further teach DNA probe and sample biopolymer(Abstract, [0011, 0020-0023]).

It would have been obvious to one of ordinary skill in the art to modify Clontech with Sato et al. One would have been motivated to do so because Clontech teaches that the hybridization chamber used in their method ensures uniform hybridization (p 3, para 1). Further, Sato et al. teach the advantage of using an array with hydrophilic and hydrophobic regions as being advantageous because it is "capable of shaping a spot of probe DNA to be fixed, into the desired shape readily and easily" (see [0010-0011]). One would have had a reasonable expectation for success because Clontech teaches using glass slides with the hybridization chamber (p 3, para 1).

Therefore it would have been prima facie obvious to modify Clontech with Sato et al.

Response to Arguments

Applicant's arguments filed August 11, 2010 have been fully considered but they are not persuasive for the following reasons. Applicants' arguments are presented in Italics.

Applicants assert that the Sato microarray is structured to form a spot for a single probe biopolymer in a single hydrophobic region and that the hydrophilic region is therefor of a very small size and is not large enough to hold a solution containing a sample biopolymer and would require a coverslip (Response, p 9).

In response, it is noted that the claims are only limited to the solution being in contact with the hydrophilic regions and do not exclude the use of a coverslip or the solution being in contact with other regions. In addition, since the slide is immersed in the hybridization buffer containing the probe, it is unclear how the hybridization buffer containing the probe would not

be in contact with the hydrophilic regions. One of skill in the art would expect that the buffer would be in contact with the hydrophilic regions. Applicants have provided no evidence that this would not be the case, nor have applicants provided any evidence that the hydrophilic regions taught by Sato et al. would not be large enough for the buffer to be in contact with them.

Further, the arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). See MPEP § 2145 I.

Maintained Rejections

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in Graham **v.** John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyman et al. (US Patent Number 6555361, granted April 29, 2003), Suzuki et al. (Non-isotopic in situ hybridization of CD44 transcript in formalin-fixed paraffin-embedded

sections, Brain Research Protocols, 1999, vol 4, pp 29-35), Morel et al. (In situ Hybridization in electron microscopy, 2001, CRC Press, Boca Raton, Section 6.9: Hybridization, pp 1-2 and 239-243), and Sato et al (US Patent Application Publication 2002/0127589, published September 12, 2002, provided by applicants in IDS).

Regarding present **claims 1 and 6-8**, Lyman et al. teach a method of hybridizing a sample to a probe on a glass slide comprising contacting a solution comprising the sample to be tested (i.e.: sample biopolymer, such as DNA since the probe is DNA, and simultaneously) to a glass slide that has DNA sequences immobilized on the surface (i.e.: probe biopolymer) wherein the test sample is applied to the glass slide only, placing the glass slide in a hybridization chamber containing a liquid to prevent evaporation and keep the chamber humidified, wherein the liquid in the hybridization chamber is not in contact with the solution on the slide containing the sample, sealing the vessel, and hybridizing the sample and the probe (See entire document, particularly Abstract and cols 3-4). It is noted that Lyman et al. do not specifically teach wherein the volume of the solution in the chamber is 5 times the volume of the solution comprising the sample, however, Lyman et al. do teach wherein the sample solution is only 5 microliters and the wells containing the chamber solution can hold 18 microliters, and wherein there can be any number of wells so that the cumulative volume would be sufficient to saturate the environment (see col 3).

While Lyman et al. teach a method of hybridizing a sample and probe biopolymer in a sealed chamber containing a fluid to maintain humidity and prevent evaporation of the sample solution from the slide, Lyman et al. do not specifically teach wherein the solution contained in the chamber and the solution comprising the sample have the same vapor pressure.

Regarding present **claims 1 and 6-8**, Suzuki et al. teach a method of hybridizing a sample to a probe on a glass slide comprising contacting a solution comprising the sample to be tested (i.e.: sample biopolymer) to a glass slide that has DNA sequences immobilized on the surface (i.e.: probe biopolymer) and placing the slide in a chamber comprising paper towels soaked in a 50% Formamide solution (i.e.: the amount of solution in the paper towels would necessarily be at least 5 times the quantity of the solution comprising the sample biopolymer), closing the container, and hybridizing the sample and probe (See particularly p 31). Suzuki et al. further state, regarding the use of the soaked paper towels:

"By this procedure, there is no need for covering the sections with coverslips or sheets of parafilm, if the moist chamber is sufficiently air tight" (See p 31).

While Lyman et al. and Suzuki et al. teach a chamber solution having a composition similar to the solution comprising the sample, Lyman et al. in combination with Suzuki et al. do not specifically teach wherein the solution contained in the chamber and the solution comprising the sample have the same vapor pressure.

Regarding present **claim 1**, Morel et al. teach a hybridization method comprising a sample solution that is essentially the same as the chamber solution (i.e.: have approximately the same vapor pressure; see p 241, where it states that the 4X SSC is the only essential component for the hybridization, e.g. sample biopolymer, buffer, and p 242, where it states that the paper towels are soaked in 5X SSC).

Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). **MPEP 2144.05**

Similarly, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). **MPEP 2144.05**

While Lyman et al. in combination with Suzuki et al. and Morel et al. teach a method of hybridizing a sample and probe biopolymer in a sealed chamber containing a fluid with the same vapor pressure as the fluid containing the sample to maintain humidity and prevent evaporation of the sample solution from the slide, Lyman et al. in combination with Suzuki et al. and Morel et al. do not teach a slide glass comprising hydrophilic and hydrophobic regions.

Regarding present **claim 1**, Sato et al. teaches a hybridization microarray comprising a hydrophilic region to which probe biopolymers are fixed and a hydrophobic region to which no probe biopolymer is immobilized formed around the arranged plurality of hydrophilic regions (Abstract, [0011, 0021-0023]).

Therefore one of skill in the art at the time of the invention would have had a reasonable expectation for success in modifying Lyman et al. with Suzuki et al, Morel et al., and Sato et al. because Lyman et al., Suzuki et al., and Morel et al. are all directed to similar methods of hybridizing a sample to a glass slide comprising an immobilized probe, using humidified closed chambers to prevent evaporation of the solution comprising the sample, and using a variety of solution compositions which can be optimized. One would have had a reasonable expectation for success in using the glass slide taught by Sato et al. because all of the cited references utilized glass slides.

One would have been motivated to modify Lyman et al. with Suzuki et al., Morel et al., and Sato et al. because Suzuki et al. teach the advantage of using a solution that keeps the chamber humidified (e.g.: cover slips are not required) and Lyman et al. teach that the method can be modified (in that certain components are indespensible while others are useful or optional). Further, Sato et al. teach the advantage of using an array with hydrophilic and hydrophobic regions as being advantageous because it is "capable of shaping a spot of probe DNA to be fixed, into the desired shape readily and easily" (specification, [0010-0011]).

Therefore the teachings of Lyman et al., Suzuki et al., Morel et al., and Sato et al. renders the present invention prima facie obvious.

In addition, it would have been obvious to substitute known elements (i.e.: the different chamber solution for preventing evaporation as taught by Lyman et al., Suzuki et al., and Morel et al.) because the substitution would have yielded the predictable result of keeping the chamber humidified to one of ordinary skill in the art at the time of the invention. See KSR International Co. v. Teleflex Inc., USPQ2d 1385 (U.S. 2007).

Response to Arguments

Applicant's arguments filed August 11, 2010 have been fully considered but they are not persuasive for the following reasons. Applicants' arguments are presented in Italics.

Applicants assert that the subject matter of the instant claims were allowed by the Japanese Patent Office and submit this as persuasive authority that the instant claims are allowable (Response, p 6).

In response, it is noted that events transpiring in the Japanese Patent Office do not apply to the United States Patent Office (e.g. statues, regulations, etc. may differ).

Applicants assert that the references do not suggest all elements of the claims (Response, p 6).

In response, the references do teach each element of the claims. Applicants are directed to the above modified rejection for a detailed explanation.

Applicants appear to be arguing that glass coverslips are required in conventional hybridization methods but not in the instant methods (Response, p 7).

In response, firstly it is noted that the instant claims do not limit the invention to hybridization methods without using a coverslip. Secondly, this is in direct contradiction to the specific teachings of Suzuki et al. which states that covering the slides with coverslips or parafilm are not required (see above rejection).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that coverslips are not used) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicants assert that even if a standard hybridization chamber was used, the closed environment for each specimen is different (Response, p 8),

In response, the "specimens," given the broadest reasonable interpretation, are interpreted as the various biopolymers immobilized on the slide. Therefor, each biopolymer, in the same chamber, would be exposed to the exact same environment.

Applicants assert that the Sato microarray is structured to form a spot for a single probe biopolymer in a single hydrophobic region and that the hydrophilic region is therefor of a very small size and is not large enough to hold a solution containing a sample biopolymer and would require a coverslip (Response, p 9).

In response, it is noted that the claims are only limited to the solution being in contact with the hydrophilic regions and do not exclude the use of a coverslip or the solution being in contact with other regions. In addition, since the slide is immersed in the hybridization buffer containing the probe, it is unclear how the hybridization buffer containing the probe would not be in contact with the hydrophilic regions. One of skill in the art would expect that the buffer would be in contact with the hydrophilic regions. Applicants have provided no evidence that this would not be the case, nor have applicants provided any evidence that the hydrophilic regions taught by Sato et al. would not be large enough for the buffer to be in contact with them.

Further, the arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). See MPEP § 2145 I.

Future Communications

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHANNON JANSSEN whose telephone number is (571)270-1303. The examiner can normally be reached on Monday-Friday 10:00AM-7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Joanne Hama can be reached on (571) 272-2911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Amber D. Steele/
Primary Examiner, Art Unit 1639

Shannon L Janssen

SLJ